

WHAT IS CLAIMED IS:

1. A vacuum treatment installation, comprising: a vacuum treatment chamber (1); a plasma discharge configuration in the chamber; as a gas supply configuration connected to the chamber; the plasma discharge configuration having at least two plasma beam discharge configurations (5, 9) with substantially parallel discharge axes (A) and at least one deposition configuration positioned along a surface (13) which extends at selected distances from the beam axes (A) and along a substantial section of the discharge beam longitudinal extension; a gas suction configuration connected to the chamber; the gas supply configuration (15) and the gas suction configuration (17) being connected to the vacuum chamber (1) such that a gas flow (G) through the chamber (1) is generated, which is substantially parallel to the discharge axes (A), and the deposition configuration is disposed between the discharge axes and/or the discharge axes (A) are disposed between two deposition configurations facing one another.
2. An installation as claimed in claim 1, wherein at least one deposition configuration is formed by a workpiece support configuration for one or several workpieces (13a).
3. An installation as claimed in claim 1, wherein at least one deposition configuration is formed by a substantially continuous planar configuration as a powder capture surface.
4. An installation as claimed in claim 1, wherein plasma beam discharge gaps between cathode (5) and anode (9) are low-voltage high-current arc discharge gaps.

5. An installation as claimed in claim 4, wherein the gaps are driveable independently of one another.

6. An installation as claimed in claim 5, wherein gaps are cold cathodes.

7. An installation as claimed in claim 5, wherein gaps are hot cathodes (5).

8. An installation as claimed in claim 1, wherein the gas supply configuration (15) is connected to a gas tank configuration containing at least one of a carbon-, boron-, nitrogen-, hydrogen- or silicon-containing gas.